

ABSTRACT OF THE DISCLOSURE

An etchant composition for molybdenum includes: 5 to 20 % by weight of hydrogen peroxide (H_2O_2); 75 to 94% by weight of water; and an additive including a pH controlling agent. The etching composition is particularly useful for the fabrication of semiconductor devices. Molybdenum may be etched from a substrate by applying the etchant composition, preferably by spraying or immersion, and preferably at a temperature range of 30°C to 45°C.